

Conservation zoology for the 1990s: a message for writers, editors and publishers based on a survey of readers' preferences in the *Australian Zoologist*

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ABSTRACT

A reader survey carried out to determine preferences for material in the *Australian Zoologist* showed that there was an active reading audience with defined preferences for a good range of zoological material. With 598 replies to the questionnaire in the June 1989 edition of the *Australian Zoologist*, a high degree of confidence can be attached to the findings. There was a clear preference for material on terrestrial vertebrates (77%) and least for invertebrates (6%). Among the types of articles preferred, sharply defined interests were apparent, with conservation zoology, e.g., woodchipping, ranking first (with 77% of respondents ranking this subject as interesting), with theme issues, e.g., kangaroo harvesting, ranking a close second at 74%. The next two highly ranked articles were those with an ecological outlook (67%) and editorials on contemporary issues (64%). Collectively, these top four topics demonstrate a consistent preference for ecologically-based viewpoints on contemporary conservation matters. A high degree of interest was shown in articles on Taronga/Western Plains Zoo (62%), fauna survey (60%), features taking up an entire edition, e.g., Riversleigh fossils (54%), historical material (53%), and book reviews (50%). Clearly, the relationship between survival of animals in the wild and conservation and management of populations and habitats is recognized by readers. The relationship between zoological science and society is now probably better recognized than it ever has been. The overwhelming preference for conservation zoology has a message for writers, editors and publishers, and indeed zoological endeavour generally.

INTRODUCTION

There was much discussion at the May 1989 meeting of Council of the Royal Zoological Society on the fact that the entire June 1989 edition of *Australian Zoologist* was devoted to just one paper (on the Riversleigh fossils). Some Council members held the view that this was too specialized and would lose members. Others felt that the issue would be immensely popular. The authors, for example, had ordered an extra 500 copies for their own distribution. As editor, I had my own ideas as to whether the *Australian Zoologist* was relevant, interesting and sufficiently diverse, but I also knew that my sample was biased towards professional field zoologists. The solution was to ask all readers and members what they thought. The way to achieve this was via a questionnaire, and by attaching it to the June 1989 renewal notices we expected to achieve a reasonable return rate. To the surprise and delight of Council, there were 598 replies from 1 048 members. With a 57% return rate, a very high degree of confidence can be attached to the results. The questionnaire also included a number of supplementary questions, such as on journal style, frequency and the number of readers of each copy sent to members. The replies were received largely between July and September 1989 and in the later part of 1989 they were logged on to a computer for analysis. This paper records

the findings, draws conclusions about implications for contents and editorial policy, then charts a course for the *Australian Zoologist* for the next year. The next section repeats the questions as they appeared in the questionnaire and presents the results concisely.

ANALYSIS OF EACH QUESTION

Question 1. "What areas of zoology are you most interested in?"

Four options were given and each person was asked to list their preferences 1 to 4 (Table 1). The results show a clear first preference (77%) for terrestrial vertebrates. The second preference (56%) was for freshwater/marine vertebrates. Freshwater/marine invertebrates was the least preferred. Any further analyses, such as terrestrial versus freshwater/marine, would be overwhelmed by the first preference for terrestrial vertebrates. An analysis was carried out subdividing the responses by membership category (scientific member, ordinary member, junior member, reader but not a member), but only small differences emerged. The most important difference was that in the first preference, 72% (number = 163) of scientific members ranked terrestrial vertebrates as number 1, whereas 84% (n=220) of the ordinary members ranked terrestrial vertebrates as number 1.

Table 1. Preferences (in percentages rounded to the nearest whole number) for areas of zoology in which members were most interested. The number of responses is shown in brackets.

Area of zoology	First preference	Second preference	Third preference	Fourth preference
Terrestrial vertebrates	77%	10%	9%	4%
Terrestrial invertebrates	6%	21%	39%	34%
Freshwater/marine vertebrates	12%	56%	22%	11%
Freshwater/marine invertebrates	6%	13%	30%	51%
Total	100% (514)	100% (471)	100% (462)	100% (465)

Question 2. "Please list the three animal groups that you were most interested in, e.g., frogs."

The wide range of responses to this question was divided into 98 categories. Some were individual species, with 17 people listing the koala, others were families or super families, and macropods were listed 35 times. Some were more general categories, such as marsupials, and this was given 90 times. However, both the koala and macropods are marsupials, so by adding all categories with the general category "marsupials", a total of 197 responses was tallied. This represents 15% of all responses (Table 2).

There was a total of 598 replies to this question, although not every respondent listed three animal groups. Of the possible 1 794 replies (i.e., 598×3), there were 1 344 replies: 606 from scientific members, 558 from ordinary members, 69 from juniors and 111 from those who gave no category. The responses in Table 2 were not subdivided by category of membership because of the general agreement amongst the different groups of members. There were, however, some differences, the most important being that 63 of the 606 (i.e., 10%) scientific members listed terrestrial eutherians whereas 123 of 558 (i.e., 22%) ordinary members listed individual animals within this group. The greater response by ordinary members here was made up of carnivores (particularly the big cats), primates and ungulates.

The information in Table 2 shows there is a wide range of interests within the membership although, as was evident in Question 1, terrestrial vertebrates predominate. Nevertheless, even the broad subdivisions shown in Table 2 indicate where the preferences lie. There was most interest in terrestrial eutherians (18%), birds (17%), marsupials (15%), reptiles (10%) and mammals in general (10%), with the categories of marine eutherians (6%), arthropods (6%), amphibians (5%) and fish (5%) forming distinct groups, in each case representing the interests of over 60 people.

Table 2. Animal groups in which respondents were most interested. (Note, rounding up of % gives 102%.)

Category	Percent of total replies
Animals general	4
Mammals general	10
Monotremes	2
Marsupials	15
Marine eutherians	6
Terrestrial eutherians	18
Reptiles	10
Amphibians	5
Fish	5
Birds	17
Arthropods	6
Molluscs	2
Other invertebrates	2
Total No. of replies	1 344

Question 3. "Please indicate your level of interest in the following types of articles (1=interesting; 2=marginally interesting; 3=not interesting)."

The responses to this question are given in Table 3, with the order in the table reflecting the ranked order of the types of articles identified as being "interesting". The table reveals that readers do have sharply defined preferences, with the range in the "interesting" category spanning 77% for conservation zoology, e.g., wood-chipping, down to 9% for obituaries. Theme issues, such as kangaroo harvesting, also ranked highly at 74%. The next two topics regarded as interesting were papers with an ecological outlook (67%) and editorials on contemporary issues (64%). Collectively, these top four topics demonstrate a consistent preference for ecologically based viewpoints on contemporary conservation matters.

The high degree of interest in articles on Taronga/Western Plains Zoo (62%) reflects the long attachment of the Society to Taronga Zoo. Another response of

Table 3. Percentage responses (rounded to the nearest whole number) indicating level of interest (1=interesting; 2=marginally interesting; 3=not interesting) in 18 types of articles. (The number of people responding to this question was 548.)

Type of article	1	2	3
Conservation zoology, e.g., woodchipping	77	16	7
Theme issues, e.g., kangaroo harvesting	74	21	5
Papers with an ecological outlook	67	26	8
Editorials on contemporary issues	64	29	7
Articles on Taronga/Western Plains Zoo	62	30	8
Fauna surveys, e.g., Mammals of Kinchega	60	30	10
Papers on behaviour	57	30	13
Features taking all of an issue, e.g., Riversleigh fossils	54	31	14
Historical material, e.g., Gould's illustrations	53	32	14
Book reviews	50	36	14
Interdisciplinary papers, e.g., zoology and law, anthropology	42	40	18
Letters to the editor	39	47	14
Physiological papers	35	41	24
Taxonomic papers	26	39	34
President's report on Society's activities	24	53	23
Report on the Society's financial position	18	45	36
Juniors	16	28	56
Obituaries	9	35	56

importance was the interest (54%) shown in features taking up an entire issue, e.g., Riversleigh fossils. After publication in June 1989, there was continuing discussion in Council as to whether this edition properly fitted members' interests, but with a 54% interest level, and only a 14% at the "not interested" level, the edition was clearly a success.

Other areas receiving an interest level from the majority of respondents were: Fauna survey, e.g., Mammals of Kinchega (60%); Historical material, e.g., Gould's illustrations (53%); and book reviews (50%). Such material, although detailed and often highly specific, is widely appreciated. The interdisciplinary papers, e.g., zoology and the law, anthropology, with an interest level of 42%, was the last of the types of articles where the category 1 (i.e., interest) response was the highest. The next type of article was letters to the editor, where 47% of respondents ranked it as only a marginally interesting category. A similar response was given to physiological and taxonomic papers. The President's report on the Society's activities and the report on the Society's financial position were primarily in the marginally interesting category. Juniors and Obituaries were the only two types of articles which the majority of respondents (56% in both cases) thought were not interesting.

Generally, the difference between the two major categories of membership (scientific and ordinary) in the preferences shown in Table 3 were not sufficient to warrant presenting all the data in a major table, but some

differences are worth recording. The greatest differences occurred in relation to articles on Taronga and Western Plains Zoos. These were listed as interesting by 72% of ordinary members but by only 48% of scientific members. The converse occurred with taxonomic papers, with 38% of scientific members regarding them as interesting compared with only 18% of ordinary members. Similarly with physiological papers: 42% of scientific members recorded them as interesting compared to 28% of ordinary members. Of note is the fact that features taking up an entire edition were ranked as interesting by 63% of scientific members, compared to 47% of ordinary members. Of most interest to scientific members were papers on conservation zoology (82%). Ordinary members scored them at 74%, and this category was also of greatest interest to ordinary members, just ahead of zoo articles (72%).

Question 4. "Journal style. Would you prefer to retain the current variety of styles of headings, page layout, etc., to a uniform layout? Yes/No."

When presented with this simple yes/no choice, the 438 people who answered this question overwhelmingly (90%) voted yes, with no difference between scientific and ordinary members.

Question 5. "Size and frequency. To keep costs at current levels, would you prefer the *Australian Zoologist* to appear (rank 1 to 3 in order of preference) 4 times per year at the same size, 3 times per year at a larger size or 2 times per year at about twice current size?"

The 488 respondents to this question showed a clear preference (60%) for 4 issues per year, with 22% preferring 2 per year and 18% preferring 3 per year. There was little difference between scientific and ordinary members.

Question 6. "Do you read something in every issue? Yes/No."

Of the 538 respondents, 89% said yes and 11% said no, with little difference between scientific and ordinary members.

Question 7. "Do you (a) file each issue, (b) throw your copy away, (c) hand it on?"

Of the 510 people who answered this question, 67% said they filed each issue. Here there was a difference between scientific and ordinary members, with 80% of scientific and 56% of ordinary members saying they filed each issue. Four per cent of scientific and 17% of ordinary members said they threw it away, and 14% of scientific and 24% of ordinary members said they handed it on.

Question 8. "How many people read your copy of *Australian Zoologist*? 1, 2, 3-4, 5+."

There were 515 replies to this question. Thirty-seven per cent stated 1, 36% stated 2, 23% stated 3-4 and 4% stated 5+. This suggests a total readership of about 1 072 of these 515 copies, i.e., two readers for every copy sent to an individual member. There was a minor difference with respect to membership, with 44% of scientific members answering 1 and only 33% of ordinary members answering 1.

Question 9. "Has any of your material been published in the *Australian Zoologist* in the last four years? Yes/No."

There were 521 replies, with 23 people (4%) saying yes, and 96% saying no. There was a difference between membership, with 7% of scientific members saying yes and 2% of ordinary members saying yes.

Question 10. "Would you consider publishing in the *Australian Zoologist*? Yes/No."

Of the 473 people who replied, 44% said yes, with 66% of scientific members and 24% of ordinary members saying yes.

Question 11. "Are you (a) a scientific member of the society, (b) an ordinary member or (c) a junior member?"

Of the 598 replies to the questionnaire, 237 (40%) were scientific members, 279 (47%) were ordinary members, 29 (5%) were junior members and 53 (9%) did not state any category.

Question 12. "Which sections of the RZS do you belong to?"

The answers were as follows: Mammal 51; Ornithology 17; Entomology 11; Aviculture 11; Junior 11; Conchology 8; don't belong, but indicated interest 23. Most people who answered the questionnaire did not state a section.

DISCUSSION

The primary conclusion from the survey of reader preferences has become the heading of this paper. Such an overwhelming preference for conservation zoology has a message for writers, editors and publishers, and indeed zoological endeavour generally. The example of conservation zoology given in the questionnaire was woodchipping, a very topical subject in recent years. I am familiar with it and see the need for a scientific base for the conservation of forests subject to woodchipping. I also appreciate the need to publish the results in a standard refereed scientific format, and recognize the necessity of carrying these conclusions into the conservation arena so that all interested parties have ready access. Conservation zoology or, more generally, conservation biology, is the undertaking of scientific studies aimed at assisting in the resolution of conservation issues. This includes spelling out in plain English how the research results are relevant to management. What emerges from the results of the questionnaire is that such an approach to zoology is now widely in demand. Interest in zoology is now set clearly against the broad backdrop of concern for the environment. Zoologists have a role to play and there is widespread interest in the results of their work. There are consequences for researchers, funding bodies, resource managers, conservation bodies and bureaucracies in the selection, conduct and application of the work of research zoologists. The interest in sound zoological science has spread beyond the scientific community.

In response to the results of the questionnaire, I have, as editor, planned the 1990 publication calendar to emphasize the conservation theme. In the March issue (Vol. 26, No. 1), the three leading papers were by experienced conservation practitioners. In the interests of keeping their debate alive, the June edition carried a range of responses to those papers. The paper published in the March issue on diving in marine mammals was given at a popular "Wildlife Forum" held by the RZS in October last year, and is consistent with reader interests in marine

eutherians. The koala paper in this edition should satisfy reader interest in terrestrial vertebrates — koalas and marsupials in particular — and represents one style of zoological investigation with immediate major conservation conclusions. The replacement for the December edition is being planned as a book on the theme: Conservation of Australian forest fauna. Most manuscripts have appeared and have been sent out to referees. I work on a quick turn-around time on each edition to keep material fresh, so I don't know what finally will be included until the day the material goes to the printer. To save time, the printers lay out the journal, and I proof-read the page proofs. The process from despatch of copy and artwork to the printers to delivered journals takes about three to four weeks. This speed keeps topics alive. The March 1991 issue will include a wide range of material, but the subsequent edition is being planned as a theme issue to record the "Zoology in Court" conference to be held by the RZS on 24 November this year.

Besides seeking papers on the most preferred themes, e.g., conservation zoology and editorials on contemporary issues, the journal will still continue to publish unpopular topics such as obituaries. Following the analysis of the results of the reader survey, I asked a few people about obituaries. To some, they are of great importance because they pay tribute to, and acknowledge the worth of, the contribution of a friend or colleague. To others, they are of considerable historical importance. For example, Professor Michael Archer pointed out that obituaries are sometimes the only source of information about the life and work of many early Australian zoologists.

As a working zoologist, I consider that fauna surveys have made an important contribution to zoology and conservation, yet I know that many professionals consider surveys to be of less importance than experimental zoology. Poorly planned surveys are of little value, but those that are well designed have much to offer Australian zoology. For the last few years I have sought and published fauna surveys, and now that 60% of readers find these interesting, they will be encouraged in *Australian Zoologist*.

Historical material interested 53% of the membership. This broad measure of support I personally find pleasing because I enjoy historical zoology and think it makes a unique contribution to some zoological and conservation issues. Many zoological journals do not publish historical material because it is not regarded as "science". The *Australian Zoologist*, however, would welcome many more papers on historical zoology in view of the interests of our readers and because the subject has intrinsic merit.

On the supplementary questions, there appeared to be the highest level of satisfaction with the current style and layout and frequency. As the journal's editor, I can say that two or three editions per year would be easier to produce than an edition every 13 weeks. However, four per year was reader preference, so the journal will stick with that for a while. The reason for reducing the number per year in future will be costs, particularly if some editions are large.

Editorial policy has always been to have all papers refereed, the large papers having two or three referees and the short papers or notes having one or two referees. This practice, and a very high standard of refereeing, will continue. Referees remain anonymous unless they explicitly wish to be identified. The changes in editorial policy are in the areas of the style of papers, length and layout. One edition devoted entirely to one paper has proved to be successful, but short notes, even of only one paragraph, are also most welcome and encouraged. This flexibility as to length is to allow a very wide range of material to be published. Also the *Australian Zoologist* has an editorial policy of using non-sexist language in keeping with the policies adopted by many publishers both in Australia and overseas.

The reader survey revealed an active reading audience with well-defined preferences for a good range of zoological material. Further, it showed that readers want to see that results are of value to conservation, so researchers, authors, publishers and editors need to consider whether a piece of research or zoological reporting emphasizes its conservation values. Clearly, the relationship between the survival of animals in the wild and the conservation and management of populations and habitats is recognized by readers. The relationship between zoological science and society is now probably better recognized than it ever has been.

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